

WE CLAIM:

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1. An arrangement for electrically interconnecting a first
connector and a second connector, the first connector being
5 adapted to receive a module, which defines a first surface and an
opposite second surface thereof, in a first installation
condition while the second connector being adapted to receive
said same module in a second installation condition wherein the
first surface is facing up in the first installation condition
10 and the second surface is facing up in the second installation
condition, comprising:

said first connector including a first housing having
a first main body with a plurality of upper contacts and lower
contacts therein;

15 said second connector including a second housing having
a second main body with a plurality of upper contacts and lower
contacts therein;

said module comprising a plurality of pads printed on
the first surface and the second surface thereof; wherein

20 an Nth pad, counted from a right side on the first
surface of the module, is adapted to engage with a corresponding
Nth upper contact counted from a right side arm of the first
connector, but is adapted to engage with a corresponding Nth
lower contact counted from a left side arm of the second
25 connector; in opposite, another Nth pad, counted from a right
side on the second surface of the module, is adapted to engage
with a corresponding Nth lower contact counted from a right side
arm of the first connector, but is adapted to engage with a
corresponding Nth upper contact counted from a left side arm of
30 the second connector.

2. The arrangement as defined in claim 1, wherein a trace
is provided to connect the Nth upper contact of the first
connector and the Nth lower contact of the second connector; in
contrast, another trace is provided to connect the Nth lower

contact of the first connector and the Nth upper contact of the second connector.

3. The arrangement as defined in claim 1, wherein said trace is disposed on a board on which the first connector and 5 second connector are commonly mounted.

4. A connector assembly comprising:

a first connector including a first housing having a first main body with a plurality of first upper passageways and lower passageways and a corresponding number of first upper

10 contacts and lower contacts received therein, respectively; and

a module including a plurality of pads printed on both first and second surfaces thereof, wherein a clearance distance between components mounted on the first surface is shorter than that between other components mounted on the second surface, and

15 wherein said module is received within the first connector with the first surface facing downward and is adapted to be received within a second connector which includes a plurality of second upper contacts and lower contacts with the first surface facing upward whereby an Nth pad on the first surface counted from a 20 right side is adapted to be engaged with an Nth second upper counted from the right side arm of the second connector and said Nth pad is engaged with an Nth first lower contact counted from a left side arm of the first connector when the module is received within the first connector.

25 5. The assembly as defined in claim 4, wherein another Nth pad on the second surface counted from a right side is adapted to be engaged with another Nth second lower contact counted from a right side arm of the second connector, and said another Nth pad is engaged with an Nth first upper contact counted from a left 30 arm of the first connector when the module is received within the first connector.

6. The assembly as defined in claim 4, wherein the module has a notch offset from a center line thereof on the right side,

and the first connector has a key offset from another center line thereof on a left side.

7. The assembly as defined in claim 4, wherein ^a~~an~~ ~~additional~~ recess is provided in a lower portion of the housing 5 of the first connector to accommodate possible electrical components mounted on the first surface of the module when the module is received within the first connector.

8. A system for arranging a first connector and a second connectors which are arranged to respectively receive therein a 10 module which defines a first surface and an opposite second surface wherein the first surface faces downward when said module is received within the first connector and faces upward when said module is received within the second connector;

15 said first connector including a first main body with first contacts therein, and a first central slot for receiving said first module therein, a pair of first side arms extending rearward from two opposite ends of the first main body; and

20 said second connector including a second main body with second contacts therein, and a second central slot for receiving said second module therein, a pair of second side arms extending rearward from two opposite ends of the second main body; wherein

30 said first connector and said second connector are positioned with each other in an opposite manner in a front-to-back direction when both mounted on a mother board 25 whereby the pair of first side arms of the first connector and the pair of second side arms of the second connector extend in opposite directions with each other.

9. The system as defined in claim 8, wherein said first connector and said second connector are arranged in a 30 head-to-head manner.

10. The system as defined in claim 8, wherein said first connector and said second connector are arranged in a back-to-back manner.

11. The system as defined in claim 8, wherein said first connector and said second connector are offset with each other in said front-to-back direction.

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